

## **REMARKS**

Claims 1-6 were previously pending in the application.

Claims 1-6 stand rejected.

Claims 3-6 stand rejected under 35 U.C.S. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 2 stand rejected under 35 U.S.C. 103(a) as being unpatentable U.S. 6,287,981 to Kim et al. ("Kim") in view of U.S. 6,033,540 to Kosaki et al. ("Kosaki").

Claims 3-6 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of U.S. 6,193,802 to Pang et al. ("Pang"), U.S. 4,539,068 to Takagi et al ("Takagi"), and U.S. 5,645,900 to Ong et al. ("Ong").

Claims 1 and 3-6 are amended.

No new matter is added.

With entry of this amendment, claims 1-6 remain in the case.

Applicant requests reconsideration and allowance of the claims in light of the above amendments and following remarks.

### **Claim Rejections - 35 U.S.C. § 112**

Claims 3-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The rejection is respectfully traversed.

Claims 3 and 5 are amended to delete the limitations including "less amount of hydrogen" and "said DLC thin film" to clarify the claim language.

Thus, the rejection of claims 3-6 under 35 U.S.C. 112 is overcome.

### **Claim Rejections - 35 U.S.C. § 103**

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim, in view of Kosaki.

Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Pang, Takagi, and Ong.

The rejection is respectfully traversed.

Claim 1 is amended to recite,

“An apparatus for manufacturing a semiconductor device, the apparatus comprising:  
a chamber having a gas inlet and a gas outlet, said chamber having an upper part with  
a dome configuration;

a susceptor provided in said chamber to permit a wafer to be placed thereon; and  
a *non-mesh* plasma electrode to which RF power is applied to generate a plasma  
within said chamber;

wherein said plasma electrode has a dome configuration to cover said upper part, and  
wherein the upper polar part of said electrode has an opening.”

Support for these amendments are found in, for example, FIG. 3 and the accompanying text.

The Kosaki invention is, however, directed to a electroplating apparatus, of which function and structures are quite different from those of the present invention. Specifically, the present invention deals with chemical vapor deposition using a plasma, while Kosaki deal with a completely different process mechanism, i.e., electroplating (electrolysis) using a plating solution (liquid). In this respect, the electrode in Kosaki is an anode electrode corresponding to the wafer as a cathode. In contrast, the electrode used in the present invention is a plasma electrode for giving energy to the process gases to generate plasma gases. Thus, the Kosaki invention does not address the same subject matter as does the Kim reference or the present invention. In *Caster v. U.S.*, 9 U.S. P.Q. 2d 1753 (Cls. Ct. 1988), *aff'd without opinion*, 883 F.2d 1026 (Fed. Cir. 1989), *reh'g denied*, 1989 .S. App. LEXIS 12606 (Aug. 21, 1989).

Further, amended claim 1 recites “*non-mesh* plasma electrode” whereas Kosaki teaches *mesh* electrode. If the mesh electrode of the Kosaki patent were used in the CVD apparatus of the present invention, it would decrease the efficiency of the chemical vapor deposition process because the apparatus of the present invention is a (capacitive coupled) plasma type apparatus.

Given these differences between the Kim reference and the Kosaki reference, the prior art does not suggest modifying the electrode for the plasma-enhanced chemical vapor deposition apparatus (Kim) with the electrode for the electroplating apparatus (Kosaki). Therefore, Kosaki cannot be combined with Kim to teach or suggest the present invention recited in claim 1.

For these reasons, the rejection does not present a *prima facie* case of obviousness. Therefore, claim 1 is allowable and claims 2-3, which depend therefrom and recite features that are neither taught nor disclosed in the cited references, are also allowable.

Similarly, claims 3-6, which recite similar limitations, are also allowable for the reasons discussed above.

### CONCLUSION

For the foregoing reasons, reconsideration and allowance of claims 1-6 of the application as amended is solicited. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.



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PATENT TRADEMARK OFFICE

Respectfully submitted,

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A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke.

Hosoon Lee  
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